Electrical and Computer Engineering Department Class Scheduler Application

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Introduction

We were tasked with creating a more efficient and user-friendly way of scheduling classes for the ECpE department at ISU. Our primary goal was to create an application that was more efficient to use than Excel but did not require the user to have to use a complex application. Additionally, one of our unrealized goals was to create a built in class scheduling feature to reduce the amount of work done by hand. Our client currently has to create the schedule by hand in Excel, and we wanted to reduce the amount of time spent to create the class schedule each semester.

Design Requirements

- Output should be able to be based on previous semester schedules
- Include any labs associated with classes
- Application is standalone, not a web application
- Cross-listed classes should not be listed twice
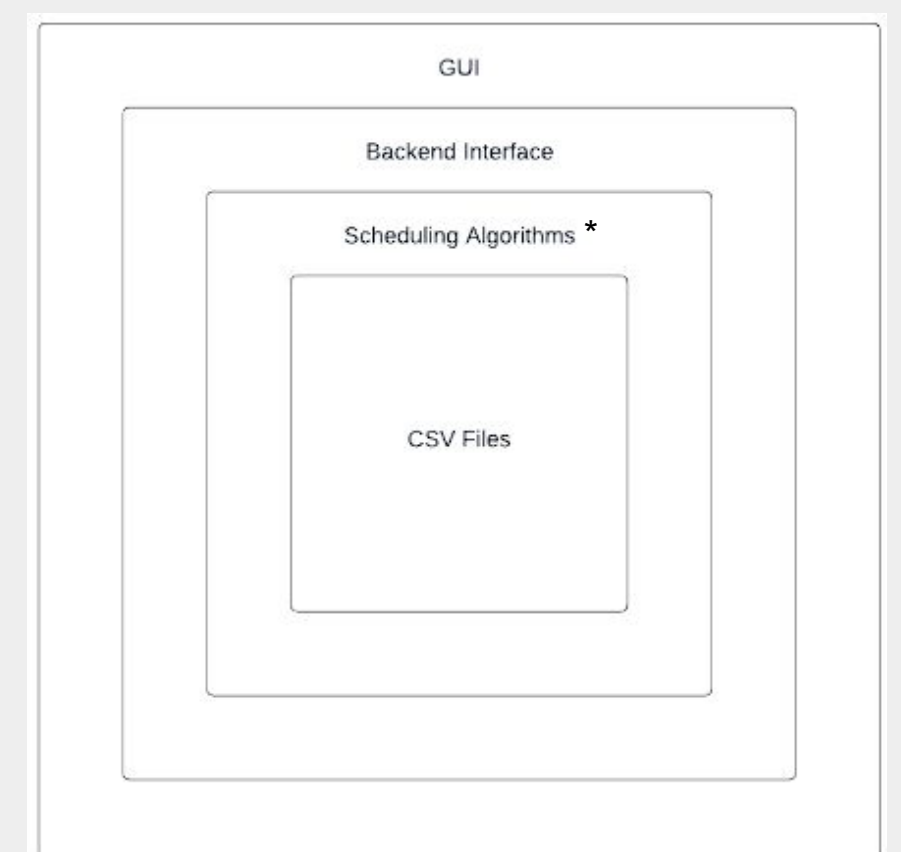- Ability to add classes from other departments

Technical Details

- Entire application was written in Python
- Used TKinter framework for GUI development
- Internal database made up of CSV files

Testing

- Overall system testing of GUI elements
  - Correctly displaying data from dictionary
  - Testing functionality of TKinter tools
- Unit testing for backend
  - CSV file parsing

Design Approach

- Backend stores course information as CSV files
- Backend interface converts .csv files into python dictionary and passed to frontend
- GUI displays course information
- Backend interface stores schedules from frontend as CSV files

Finalized Product

- Classes for each department are listed in drop-down menus on left side panel
- The look of the main table imitates the look of the spreadsheet
- You can add classes and labs at specific times on the right-side panel
- Time-slot panels are updated based on changes made in the right-side panel